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Neubardt

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(54) **HARVESTING BONE GRAFT MATERIAL
FOR USE IN SPINAL AND OTHER BONE
FUSION SURGERIES**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,499,985 A	3/1996	Hein et al.
6,682,544 B2	1/2004	Mastri et al.
7,201,775 B2	4/2007	Gorensek et al.
7,618,423 B1	11/2009	Valentine et al.
7,972,364 B2	7/2011	Biedermann et al.
8,328,870 B2	12/2012	Patel et al.
8,343,178 B2	1/2013	Novak et al.
8,353,912 B2	1/2013	Darian et al.
8,425,610 B2	4/2013	Guyer et al.

(Continued)

OTHER PUBLICATIONS

Alphatec Spine, Inc., Solus(R) Anterior Lumbar Interbody Fusion,
online advertisement (undated).

(Continued)

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ABSTRACT

A system for harvesting bone graft material for use during bone fusion surgery. In one embodiment, a bone cutting tool has a blade fixed on a distal end of a shaft. The distal end of the shaft is pivoted on a cage set between two bones to be fused, and the blade is activated to cut into the bones and form a solid bone segment in each bone as the tool shaft turns. A paddle is arranged to be inserted between the bones, and to displace the cut bone segments so that a leading portion of each segment enters the bone opposite the bone from which the segment was cut, a central portion of the segment spans across the bones, and a trailing portion of the segment remains in the bone from which it was cut. The displaced segments act as strut grafts to fuse the bones to one another.

2 Claims, 10 Drawing Sheets

